

INVENTOR'S DISCUSSION of EXAMINER'S COMMENTS

The Examiner submits that Claims 1, 3-4, 7-11 and 19 are rejected under 35 U.S. C. 102(e) as being anticipated by Royalty (U.S. Pat. No. 6,859,185.

The inventor respectfully submits that Royalty does not anticipate Grober.

This application 10/771,763 is a continuation in part of Grober Pat. No. 6,718,130 which was filed Sept. 7, 2002. Issued Apr 6, 2004.

Royalty 6,859,185 was filed on June 11, 2003 after Grober 10/771,763, and Royalty was issued February 22, 2005, after Grober Pat. No. '130 was issued

This application 10/771,763 was filed Feb 4, 2004, after Royalty was filed, but before Royalty was issued.

Grober App '763 is identical to Grober Pat. No. '130 except that the limitation of "camera" found in Grober '130 has substituted by "devices or tools"

Patent 6,718,130: A stabilized camera buoy platform comprising:

App 10/771,763: A stabilized buoy platform comprising:

Patent 6,718,130: (a) a buoy float having a camera support platform for mounting a camera stabilizing system on the buoy float.

App 10/771,763 (a) a buoy float having a support platform for mounting a stabilized platform on the buoy float.

Patent 6,718,130 (b) camera stabilizing system mounted on the platform for stabilizing an image receiving device to compensate for movements of the buoy float in pitch and roll; and

App 10/771,763 (b). a stabilizing system mounted on the platform for stabilizing a singular or a plurality of devices and/or tools from the movements of the buoy float in one, two or three axis which include pitch, roll and azimuth; and

Patent 6,718,130 (c) an image receiving device mounted to the camera stabilizing system.

App 10/771,763 (c) at least one device and/or tool mounted on the stabilizing system.

The Examiner submits that that Royalty anticipates Grober App. No. 10/771,763 in that Royalty teaches a stabilized antenna platform that can be used on a buoy. The examiner states "An antenna both senses and transmits electromagnetic radiation.". Does the antenna anticipate

Grober's "devices and tools". Possibly the broad meaning of "device", but certainly not "tools" within the context of the disclosure.

Grober Pat. No. **6,718,130** ('130) discloses and claims both cameras **and antenna**. If Royalty's antenna anticipates Grober's tools and devices in App '763, then Royalty's antenna should be anticipated by Grober Pat. No. '130.

Grober Pat. No. '130 states on page 3 line 2 "a wireless control system having antenna 7 and 19," Page 4 line 18 "The camera operator views the transmitted image 18, and utilizes a control panel 17 to remotely control the stabilization and camera systems. Grober FIG. 2 shows the antenna 7 and 19 being stabilized on the camera. Claim 6 "wherein the image receiving device and stabilizing system each comprise controls for remote control, whereby the image receiving device and camera stabilizing system can be operated by a wireless remote control. Method Claim 16 " (d) remote controlling the image receiving device by wireless remote control, (e) acquiring the image receiving device signal by wireless remote control.

There is significant prior art of stabilized antennae including Algrain U.S. Pat. No 5,124,938, Matthews 5,419,521, Welch 5,922,039, and others.

Royalty is novel for his physical stabilization design which uses canted arms shown in Royalty FIG 1, and which according to Royalty provides a means to decouple the axis. Royalty's algorithms, which are not claimed, provide the equations to make his physical canted arm solution of FIG 1 functional.

Royalty's canted arm stabilization solution claims the advantage of being able to decouple the axis. However, it also places the antenna payload off-center. (FIG 1.) Royalty makes no claims, descriptions or specifications addressing this off centered mass. Royalty would work in a motionless environment, but introduce acceleration forces caused by buoy motion and the off-center antenna mass is now subjected to tremendous acceleration and deceleration forces as the buoy, pushed by wave motions, continually comes up short against the anchor chain. This snap and jerk would continually stress and worry the canted arm structure, which would

effectively beat itself to death. Although the structure could be built so robust as to withstand this offset CG, Royalty on page 1 line 58 discusses that his novelty is important for its light weight.

He references prior art in that;

Movement of one of the positioners may cause undesired movement of another positioner, i.e. the azimuthal positioner may be coupled to the cross-level positioner, or the elevational positioner. **Accordingly, larger more powerful motors have been used to compensate for the undesired motion. It has also been found, however, that the use of larger motors may cause overcompensation and an accumulation of undesired movement, which may increase errors in the pointing direction.** (emphasis added.)

Wherein part of Royalty's light weight novelty provides increased accuracy, the snap and jerk motion of a buoy, applied to Royalty's canted arms and offset C.C., would become a liability due to heavier construction.

Royalty's offset CG would also cause the buoy to list at an angle, and said angle would constantly change as Royalty rotates 360 degrees to achieve pointing. The buoy's counterbalance weight located below the surface, would, for the Royalty device, require a heavier weight than non-canting arm systems. This heavier weight during buoy deployment and repair, might require a larger buoy tender or larger crane, which further makes Royalty a liability on a buoy. Royalty would also require larger motors/actuators in a buoy environment, which is Royalty's stated advantage over prior art as he states on page 1, line 62. The larger motors of Royalty would require greater power consumption versus a non-canted arm stabilizer. Power is probably the most critical limiting factor in buoy capabilities, therefore Royalty would again be detrimental.

Royalty is novel for his method of achieving stabilization using canted arms and decoupling the axis. This does not make it anticipate Grober's tools and devices. Royalty's canted arms and offset payload mass, teach away from a workable solution for use on a buoy.

The inventor respectfully submits that Royalty does not anticipate Grober App.

10/771,763.

The Examiner submits that 1,3,4, 17, and 19 are rejected under 35 U.S.C 102(b) as being anticipated by Dodge (U.S. Patent No. 4,626,852.)

The Inventor submits that DODGE, 4,626,852 is a buoy lantern system. The lantern is passively stabilized, therefore the motion of the waves beget acceleration forces which are not countered or stabilized for. Dodge discloses this issue in his Abstract where he requires a “heavily damped gimbal” and fully discloses the stabilization results on page 5 line 62; “The lantern’s lens and batteries are supported on a heavily damped gimbal which responds to a sustained list caused by winds or current, but not to sporadic wave undulations.” The result is that the Dodge lantern will not stay very level. This inaccuracy is acceptable for Dodge because of the fresnel-type drum lens and wide angle of diffusion of the lantern.

Dodge doesn’t discuss that every time the buoy comes up short against its anchor rode, significant deceleration forces cause snap and jerk. Grober, in amended claim 1 is an “active” stabilizing system and maintains a high degree of accuracy which is required for his claimed applications such as coordinated camera and a paint sprayer, camera and drill and other coordinated activities.

The inventor respectfully submits that Dodge does not anticipate Grober App 10/771,763.

The Examiner submits that Claim 20 is unpatentable over Royalty in view of Edmondson.

The Inventor respectfully submits that Grober Royalty should not be considered prior art and therefore it would not be obvious in view of Edmondson.

The Examiner under Election/Restrictions states that the applicant does not have sufficient disclosure in the specification to support a claim of a sensor which emits paint. The inventor responds that a key element of this patent is that sensors and tools in combination accomplish tasks and operations from a buoy. They are intended as different and distinct.

Therefore claim 5 for example is not referring to a sensor that emits paint, but that there is a sensor and there is a tool or a device that emits paint, such as a paint gun. Amendments have been made to the claims to clarify this issue. FIG 1 distinctly shows a tool 8 and a camera 5. Paragraph 0030 describes this as "Tool support platform 3 provides an attachment mechanism for securing tool 8, such as a fire nozzle, camera 5 Original claim 6 "wherein the device and/or tools are, but not limited to: a paint brush, drill, welding iron, and/or gun."

The inventor respectfully submits that the elected species BI (sensor) is used in combination with tools and devices.

END OF INVENTOR'S DISCUSSION of EXAMINER'S COMMENTS